CITY OF CHICOPEE
Wetland Protection Ordinance - Chapter 272

REGULATIONS

PART I - REGULATIONS FOR ALL WETLANDS

SECTION

PART II - REGULATIONS FOR RESOURCE AREAS AND BUFFER ZONES

SECTION

UNLESS OTHERWISE STATED IN CHAPTER 272, OR IN THE RULES AND REGULATIONS PROMULGATED UNDER CHAPTER 272, THE DEFINITIONS, PROCEDURES AND PERFORMANCE STANDARDS OF THE WETLAND PROTECTION ACT, MGL CHAPTER 131, SECTION 40, AND ASSOCIATED REGULATIONS, 310 CMR 10.00 AS PROMULGATED APRIL 1, 1983, et seq., SHALL APPLY.

Approved: **April 3rd, 2002 by the Chicopee Conservation Commission**

Robert Kachinski, Chairman

PART I REGULATIONS FOR ALL WETLANDS

10.01 - INTRODUCTION AND PURPOSE

1. **Introduction**
These regulations are promulgated by the City of Chicopee Conservation Commission pursuant to the authority granted to it under Chapter 272 of the City of Chicopee Wetlands Ordinance, hereinafter referred to as the "ORDINANCE." These regulations shall compliment the ORDINANCE and shall have the force of law upon their effective date.

2. **Purpose**
The ORDINANCE sets forth a public review and decision making process by which activities affecting areas subject to protection under the ORDINANCE are to be regulated in order to ensure the protection of the following interests:

- public water supply
- private water supply
- ground water and ground water quality
- flood control
- erosion and sedimentation control
- storm damage prevention
- prevention of water pollution
- fisheries
- wildlife
- aesthetics
- agriculture
- aqua culture
- seasonal wetlands
- historic values

The purpose of these regulations is to define and clarify that process by establishing standard definitions and uniform procedures by which the Chicopee Conservation Commission may carry out its responsibilities under the ORDINANCE.

10.02 - STATEMENT OF JURISDICTION

1. **Areas Subject to Protection Under the Ordinance**

The following areas are subject to protection under the Ordinance:

A. Bank
B. Freshwater Wetland

C. **Vegetated wetland bordering on...** **the ocean**
any river
any creek
any stream
any pond
any lake

D. **Land Subject to Flooding**
E. **Land under any of the water bodies listed above.**
F. **Ephemeral stream.**
G. **Intermittent stream.**
H. **Kettle pond.**
I. **Upstream drainage with potential for altering wetlands (UDPAW)**
J. **Vernal Pool.**
K. **Isolated wetlands**

2. Activities Subject to Regulation:

A. Activities subject to protection under the Ordinance. Any activity proposed or undertaken within an area specified in 10.02 (1) (A through L), which will remove, fill, dredge or alter that area is subject to regulation under the Ordinance, and requires the filing of a Notice of Intent.

B. Activities within the buffer zone. Any activity proposed or undertaken within one hundred (100) feet of an area specified in 10.02 (1) (A through L), is subject to regulation under the Ordinance, and may require the filing of a Notice of Intent.

C. Activities outside the areas subject to protection under the Ordinance and the Buffer Zone. Any activity proposed or undertaken outside the areas of protection and their buffer zones, as specified in 10.02 (1) (A through L), may require the filing of a Notice of Intent, if said activity may alter an area subject to protection under the Ordinance.

10.03 - GENERAL PROVISIONS

1. Burden of proof (See Chapter 272-12)

2. Burden of going forward (See 310 CMR 10.03 (2))

3. Presumption concerning Title 5 (See 310 CMR 10.03 (3))

4. No presumption, exception or exemption for point source discharges is provided for under Chapter 272 (see Chapter 272-3. A.(1)).

5. Presumption of significance (See 310 CMR 10.03 (5))

6. No presumption, exception or exemption for application of herbicides is provided for under Chapter 272 (see Chapter 272-3, A. (1).

7. Fees (See 310 CMR 10.03 (7) and Chapter 272-3 B. (2) & (3)

10.04 - DEFINITIONS

Aesthetics the natural scenery and appearance of any wetland resource area.

Agriculture (see Chapter 272 10.04, Normal Maintenance and/or Improvement of Land In Agricultural Use.)

Alter includes, without limitation, the following actions:

1. Removal, grading, excavation or dredging of soil, sand, gravel or aggregate materials of any kind.
2. Changing drainage characteristics, flushing characteristics, salinity distribution, sedimentation patterns and flood-retention characteristics.
3. Drainage or other disturbance of the water level or water table.
4. Dumping, discharging or filling with any material which may degrade water quality.
5. Driving of piles or erection of buildings or structures of any kind.
6. Placing of obstructions, whether or not they interfere with the flow of water.
7. Destruction of plant life, including cutting of trees.
8. Changing of water temperature, biochemical oxygen demand or other physical or chemical characteristics or surface and ground water.
9. "Wildlife habitat", those areas subject to this chapter which, due to their plant community, structure, hydrologic regime or other characteristics, provide food, shelter, migratory, over wintering or breeding areas for wildlife.
10. Other changes or modifications which the Conservation Commission in good faith determines to have a potential adverse effect on wetland values.

Aquaculture land presently and primarily used in the growing of aquatic organisms under controlled conditions, including one or more of the following uses; raising, breeding or producing a specified type of animal or vegetable life.

Aquifer a geologic formation that is capable of yielding a significant amount of water to a well or spring. All the spaces and cracks, or pores, between particles of rock and other material in an aquifer are saturated with water. Water can move through the pores toward a spring or other discharge area.

Area subject to protection any area specified in Section 10.02 (1). It is used synonymously with Resource Area.

Artificial Wetlands a designed/constructed wetland.

Bordering touching.

Boundary the boundary of an area subject to protection under the Ordinance. A description of the boundary of each area is found in the appropriate section of these regulations.

Buffer Zone a 100 horizontal foot zone around the wetland. (See 10.81)

Ephemeral Stream a stream or position of a stream which flows only in direct response to precipitation. It receives little or no water from springs and no long-continued supply from melting snow or other sources. Its channel is at all times above the water table.

Erosion and Sediment Control the avoidance or minimization of destruction by edges of soils, sands, clays, ledge rock, or any other land form, both naturally occurring or man-made; also the avoidance of the depositing of soils, sands, clays, or any other naturally or unnaturally occurring material.

Extent Practicable an applicant has made all reasonable efforts to meet a standard(s), including evaluation of alternative designs and locations.

Freshwater Wetlands wetland types associated with non-tidal wetlands.

Growing Season the time period from approximately March 15 to October 15.

Intermittent Stream

1. A stream which flows part of the time, as after a rainstorm, during wet weather or during part of the year.
2. One that flows only at certain times when receiving water from springs (spring-fed) or from some surface source (surface-fed) such as melting snow.

Kettle Hole a bowl-shaped depression, usually from thirty (30) to fifty (50) feet deep to five hundred (500) feet deep, resulting from the resting place or burial place of a huge mass of ice that became detached during glacial melting. The final melting of the ice left a depression.

Kettle Pond a "kettle hole" which retains water.

Land in Agricultural Use any qualifying wetland within a farm which is qualified or eligible to be qualified under the Farmland Assessment Act, MGL CH.61A SS 1-5.

1. **Normal Maintenance of Land in Agricultural Use**: includes only

   A. **Tilling** practices customarily employed in the raising of crops.

   B. **Pasturing** of animals, including such fences and protective structures as may be required.

   C. **Use of fertilizers, pesticides, herbicides** and similar materials subject to state and federal regulations covering their use.

   D. **Constructing, grading or restoring** of field ditches, subsurface drains, grass waterways, culverts, access roads and similar practices to improve drainage, prevent erosion, provide more effective use of rainfall and improve equipment operation and efficiency, in order to improve conditions for the growing of crops.

2. **Improvements of land in agricultural use** includes more extensive practices such as the building of ponds, dams, structures for water control, water and sediment basins and related activities, but only where a plan for such activity approved by the Conservation District of the Soil Conservation Service (SCS) is furnished to the Conservation Commission prior to the commencement or work.

   All such activity shall be carried out in accord with said plan. In the event that the work is not carried out in accordance with the SCS plan, the Conservation Commission may issue a stop work order and order restoration of any altered resource areas under their regulatory jurisdiction.

Marsh areas where a vegetational community exists in standing or running water during the growing season and where a significant part of the vegetational community is composed, but not limited to, nor necessarily including all of the following plants or groups of plants:
arums (Araceae), bladderworts (Utricularia), bur reeds (Sparganiaceae), buttonbush Cephalanthus occidentalis), cattails (Typha), duckweeds (Lemnaceae), ellgrass Vallisneria), frog bits Hydrophilic grasses (Oiaceae), leatherleaf (Chamaedaphne calyculata), pickerelweeds (Ponterderiaceae), pipeworts (Eriocaulon), pondweeds Potamogeton), rushes (Juncaceae), sweet gale (Myrica gale), water milfoil Haloragaceae), water lilies (Nymphaeaceae), water starworts (Callitrichaceae) and water willow (Decodon vertifillatus

Plans maps, data, engineering drawings, calculations, specifications, schedules and other materials deemed

necessary by the issuing authority to describe the site and/or the work, to determine the applicability of the ORDINANCE. Said drawings should have a minimum scale of one (1) inch to forty (40) feet.

Pond any open water body naturally occurring or man-made by impoundment which is never without standing water due to natural causes, except during periods of extended drought. For purpose of this definition, "extended drought" shall mean any period of four (4) or more months during which the average rainfall for each month is fifty percent (50%) or less of the ten-year average for that same month. Basins or lagoons which are part of wastewater treatment plants shall not be considered "ponds."

Protection of Wildlife protection of any plant, animal species, and resource area to provide food, breeding habitat or escape cover for any species falling within the definition of wildlife set forth in these Regulations.

Protection of Historic Values protection of areas subject to protection under the Ordinance which are known or determined in writing by the Conservation Commission to be likely to contain sites of archaeological significance, including but not limited to burial sites, historic and prehistoric structures and artifacts.

Qualifying Wetland only inland freshwater areas which are seasonally flooded basins, flats or inland fresh meadows.

Riverrine Wetland wetland and deep water habitats that are contained within a channel. These areas are particularly valuable in reducing the danger of flooding.

Seasonal Wetlands isolated depressions or closed basins which temporarily confine water during periods of high water table and high input from spring runoff, snow melt or heavy precipitation and support populations of non transient macroorganism, or serve as breeding habitat for a select species of amphibians. In the absence of those habitat functions, the areas should be considered land subject to flooding.

Select Species of Amphibians species of amphibians which depend on seasonal wetlands for breeding habitat including but not limited to:
Jefferson salamander, blue-spotted salamander, marble salamander, spotted salamander, wood frog, gray tree frog, spring pepper, American toad and four-toed salamander.

Stormwater Management method(s) used to protect waterbodies from the adverse affects and impacts of stormwater runoff.

Stormwater Management System A conveyance system designed for the capture, treatment and discharge of stormwater.

Stormwater Management Standards standards as contained in Section 10.82 of these regulations, and those in the MA Department of Environmental Protection's Stormwater Management Handbook and Stormwater Technical Handbook (volumes 1 and 2).

Stream a body of running water, including brooks, creeks, which move in a definite channel in the ground due to a hydraulic gradient. A portion of a "stream" may flow through a culvert or beneath a bridge. Such a body of running water which does not flow throughout the year is also a "stream."

Upstream Drainage with Potential of Altering Wetlands over land or surficial flow (runoff), which may originate from natural sources (springs, snow melt, precipitation, etc.) or human development (roads, driveways, slope changes, lawns, drainage swales, drainage outfalls or other human landscape alterations), which carries a sediment load or pollution that may alter a resource area. Such drainage may not necessarily flow in any discernible channel but may flow as sheet flow (over smooth surface), thread flow (through small stems and leaves) or riverlet flow (along small hills on the surface.)

Vegetated Bank is defined in Part III section 10.54.

Vegetated Wetlands is defined in Part III section 10.55.

Wildlife any non-domesticated mammal, bird, reptile, amphibian, fish, mollusk, arthropod, or other invertebrate, other than a species of the Class Insecta, or which has been determined by the Commonwealth of Massachusetts or any agency thereof to be a pest whose protection under the provisions of the ORDINANCE would be a risk to man.

PART II - REGULATIONS FOR RESOURCE AREAS AND BUFFER ZONES

10.55 - VEGETATED WETLANDS (wet meadows, marshes, swamps, bogs)

Preamble:

I. Bordering Vegetated Wetlands

These wetlands are likely to be significant to public or private water supply, groundwater supply, flood control, fisheries, prevention of pollution and storm damage, wildlife habitat, aesthetics, agriculture and historic values.

Vegetated wetlands remove or detain sediments, nutrients (such as nitrogen and phosphorous) and toxic substances (such as heavy metal compounds) that occur in run-off and flood waters.

Some nutrients and toxic substances are detained for years in plant root systems or in the soils. Others are held by plants during the growing season and released as the plants decay in the fall and winter. This latter phenomenon delays the impacts of nutrients and toxins until the cold weather period, when such impacts are less likely to reduce water quality.

Vegetated wetlands are areas where, under some circumstances, surface water discharges to the ground water.

The profusion of vegetation and low, flat topography of vegetated wetlands slow down and reduce the passage of flood waters during periods of peak flows by providing temporary flood water storage, and by facilitating water removal through evaporation and transpiration. This reduces downstream flood crests and resulting damage to private and public property.

During dry periods water retained in vegetated wetlands is essential to the maintenance of base flow levels in rivers and streams, which in turn is important to the protection of water quality and water supplies.

Wetlands flooded by adjacent water bodies which occurs during peak flow periods provide food, breeding habitat and cover for fish.

Fish populations in the larval stage are particularly dependent upon wetlands because most river and stream channels do not provide enough quantities of the microscopic plant and animal life required.

Wetland vegetation also provides shade that moderates water temperatures important to fish life.

Wetland vegetation supports a wide variety of insects, reptiles, amphibians, mammals and birds which are a source of food for important game fish. ***Bluegills (Lepomis macrochirus), pumpkinseeds (Lepomis gibbosus), yellow perch (Perca flavescens), rock bass (Ambiplites rupestris) and all trout species feed upon non aquatic insects. Large-mouth bass (Micropterus salmoides), chain pickerl*** *(Esox* ***niger) and northern pike (Esox lucius).*** These wetlands are also important to the protection of rare and endangered wildlife species.

Vegetated wetlands are probably the City's most important inland habitat for wildlife. The hydrologic regime, plant community, composition and structure, soil composition and structure, topography and water chemistry of vegetated wetlands provide important food, shelter, migratory, over wintering, and breeding areas for many birds, mammals, amphibians and reptiles.

A wide variety of vegetated wetland plants, the nature of which are determined in large part by the depth and duration of water, as well as soil and water composition, are utilized by varied species and are important areas for

mating, nesting, brooding, rearing, shelter and (directly and indirectly) food

The diversity and interspersion of the vegetative structure is also important in determining the nature of its wildlife habitat. Different habitat characteristics are used by different wildlife species during summer, winter and migratory seasons.

Vegetated wetlands, together with land within 100 feet of a vegetated wetland, serve to moderate and alleviates thermal shock and pollution resulting from runoff from impervious surfaces which may be detrimental to wildlife and fisheries downstream of the vegetated wetlands.

Land within 100 feet of a vegetated wetlands is likely to be significant to the protection and maintenance of vegetated wetlands, and therefore to the protection of the interests which these resource areas serve to protect.

A. Definition, Critical Characteristics and Boundary

Definition

Vegetated wetlands are freshwater wetlands which may border in creeks, rivers, streams, ponds and lakes. The types of freshwater wetlands are wet meadows, marshes, swamps and bogs. These are areas where the topography is low and flat, and where the soils are annually saturated. The ground and surface water regime and the vegetational community which occur in each type of vegetated wetland are specified in the ORDINANCE.

Critical Characteristics

The physical characteristics of vegetated wetlands, as described in the foregoing 10.55 (2)(a), are critical to the protection of the interests specified in 10.55 (1).

Boundary

The boundary of vegetated wetlands is determined by meeting the following requirements:

1. Fifty percent (50%)or more of the natural vegetative community must consist of obligate or facultative wetland plant species as included or identifies in generally accepted scientific or technical publications (as, for example, the Wetland Plant List [Northeast Region] for the National Wetlands Inventory, U.S. Fish and Wildlife Service)

2. The soils must be annually saturated, as evidenced by the observed or documented presence of ground water generally within 24 inches of the surface at any time of the year or by soil mottling within 24 inches of the surface.

3. The Conservation Commission may require the use of the Dominance Test, as outlined in "Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act, MA Department of Environmental Protection, Division of Wetlands and Waterways, March 1995.

   In situations where the natural vegetative community may have been destroyed, as for example by lawn or agricultural use, the Conservation Commission may determine the area to be a freshwater wetland on the basis of annual soil saturation alone (as defined above) or may defer the determination until the natural vegetation has regrown at its own discretion or at the request of the applicant or the landowner.

B. Presumption

Where a proposed activity involves the removing, filling, dredging or altering of a freshwater wetland, the Conservation Commission shall presume that such an area rebuttable and may be overcome upon a clear showing that the freshwater wetland does not play a role in the protection of said interests. In the event that the presumption is deemed to have been overcome, the Conservation Commission shall make a written determination to this effect, setting forth its grounds.

C. **General Performance Standards**

Where the presumption set forth above is not overcome, any proposed work in a freshwater wetland shall not destroy or otherwise impair any portion of said area.

Construction of a septic or septic leaching system is prohibited within 100 feet (or greater as defined by Title 5 of the Mass. Septic code) of a vegetated wetland.

Notwithstanding ***Section 4(a)*** above, the Commission may issue a Permit allowing work which results in the loss of up to 5,000 square feet of freshwater wetland **when said area is replaced in accordance with section 10.84.**

Notwithstanding the provisions of 4 (a), (b), and (c) above, no project may be permitted which will have any adverse effect on any habitat sites, including specified habitat sites of rare vertebrate or invertebrate species as identified on the Natural Heritage and Endangered Species Estimated Habitat Maps on file with the Conservation Commission and identified under section 10.59 ("Rare Species") of the regulations to the state Wetlands Protection Act (310 CMR 10.00).

II. Isolated Wetlands

Preamble:

Isolated wetlands are freshwater wetlands that do not border on creeks, rivers, streams, ponds and lakes. Isolated wetlands are likely to be significant to public or private water supply, to ground water supply, to flood control, to storm damage prevention, to prevention of pollution, and to wildlife habitat, aesthetics and historic values.

Isolated wetlands may be found within areas with low flat topography or below side hill seeps. These areas provide for the temporary storage of water which results from run-off, rising ground water, or where ground water breaks out of a slope forming a side hill seep. In this way they provide for flood control and prevention of flood damage. Alteration can result in the lateral displacement of retained water into contiguous properties, which may result in damage to said properties.

Where such areas are underlain by pervious material covered by a mat of organic peat or muck, they are likely to be significant to the prevention of pollution.

Isolated wetlands providing seasonal wetland habitats are essential breeding sites for certain amphibians which required isolated areas that generally flood in the spring and/or summer, and are free of fish predators. Many reptiles, birds and mammals also depend upon such isolated wetlands as a source of food.

A. Definition, Critical Characteristics and Boundary:

Definition

Isolated wetlands are freshwater wetlands, as defined in this ORDINANCE, that do not border creeks, rivers, streams, ponds and lakes. Some isolated depressions which hold standing water for extended periods of time, perhaps continuously, such as certain kettle holes too small to be called ponds of lakes, are isolated wetlands

Critical Characteristics

Isolated wetlands may occur in a depression or closed basin in otherwise flat topography. Water may pool above the surface at least once a year or may be continued in the top 24 inches of soil. In addition, some isolated wetlands occur downslope of side hill seeps, depending on the topography, soils, and water regime.

In most cases, the vegetative community in isolated wetlands conforms to that specified in this ORDINANCE for freshwater wetlands. Occasionally the presence of water is so temporary that the appropriate vegetative community is not established; these areas may qualify as seasonal wetlands.

The soils are annually saturated as specified for freshwater wetlands, except in those isolated wetlands that are seasonal wetlands this soil condition may not be present.

Boundary
The boundary is determined by one or more of the following, (Where more than one method is possible, that method leading to the largest area shall be used)

1. The line enclosing that area having a vegetative cover consisting of 50%or more of freshwater species, as defined in the ORDINANCE

2. The line enclosing the largest observed or recorderdarea of water confined in said area, or

3. The area calculated to be inundated by run-off from the 100-year storm.

4. The Conservation Commission may require the use of the Dominance Test, as outlined in "Delineating Bordering Vegetated Wetlands Under the Massachusetts Wetlands Protection Act", MA Department of Environmental Protection, Division of Wetlands and Waterways, March 1995

B. **Presumption**
Where a proposed activity involves removing, filling, dredging, or altering an isolated wetland, the Commission shall presume that such an area is significant to, and only to, the respective interests specified in section 10.55 (B) (1).

This presumption is rebuttable and may be overcome upon a clear showing that said land does not play a role in said interests. In the event that the presumption is deemed to have been overcome, the Conservation Commission shall make a written determination to this effect, setting forth its grounds.

C. **General Performance Standards**
A proposed project which may result in alteration of an isolated wetland shall not result in the following:

1. Flood damage due to filling which causes lateral displacement of water that would otherwise be confined within said area.

2. An adverse effect on public and private water supply or ground water supply, where said area is underlain by pervious material.

3. An adverse effect on the capacity of said area to prevent pollution of the ground water, where the area is underlain by pervious material which in turn is covered by a mat of organic peat or muck.

4. An impairment of the area's capacity to provide wildlife habitat.

Not withstanding the provisions of section *10.55 B (4)* above, no project may be permitted which will have any adverse effect on specified habitat sites of rare vertebrate or invertebrate species as identified on the National Heritage and Endangered Species Estimated Habitat Maps identified under section 10.59 ("Rare Species") of the Regulations to the state Wetlands Protection Act (310 CMR 10.00).

10.57 - LAND SUBJECT TO FLOODING (Bordering and Isolated)

Preamble
See 310 CMR 10:57 (1) (a) &(b).

Definition Critical Characteristics and Boundary:

Definition

Bordering Land Subject to Flooding is an area with low, flat topography adjacent to and inundated by floodwaters rising from rivers, streams, ponds or lakes. It extends from the banks of these waterways and waterbodies. Where a bordering vegetated wetland occurs, it extends from said wetland.

The boundary of bordering land subject to flooding is the estimated maximum lateral extent of floodwater which will theoretically result from the statistical one hundred year frequency storm. Said boundaries shall be that determined by references to the most recently available flood profile data prepared for the community within which the work is proposed under the National Flood Insurance Program (NFIP) currently administered by the Federal Emergency Management Agency. Said boundary shall be presumed accurate.

This presumption may be overcome by credible evidence submitted to the Conservation Commission from a registered engineer or other professional competent in such matters.

Isolated Land Subject to Flooding is an isolated depression or closed basin without an inlet or an outlet which at least once a year confines standing water. Isolated Land Subject to Flooding may be underlain by pervious material, which may in turn be covered by a mat of organic peat or muck. The boundary of Isolated Land Subject to Flooding is the perimeter of the largest observed or recorded volume of water confined in said area.

B. **Presumption** See 310 CMR 10:57 (3).

C. **General Performance Standards** See 310 CMR 10:57 (4).

10.80 - SEASONAL WETLANDS (Temporary ponds, vernal pools)

Preamble:
Seasonal wetlands are usually isolated depressions or closed basins that serve, in most years, as ponding areas for run-off or high ground water that has risen to the surface. Seasonal wetlands may be found in floodplains or in saddles at the base of slopes. It should be noted that the above characteristics may be shared with isolated wetlands (cf. section 10.55 B).

Seasonal wetlands are distinguished from isolated wetlands in that they frequently serve as temporarily flooded amphibian breeding habitat, as well as habitat for other wildlife, and as such, are likely to be significant to the protection of wildlife habitats.

In addition, such areas may be locally significant for flood control, storm damage prevention, and ground water and public and private water supply. Where such areas are underlain by pervious material covered by a mat of organic peat or other organic accumulation, they may be significant to the prevention of pollution.

In addition to the critical characteristics given below in section 10.80 (2) (b), seasonal wetlands have long been recognized for their importance to amphibians. Existing field data show that seasonal wetlands provide critical habitat for a number of amphibian species, some of which are listed below.

Amphibians requiring seasonal wetlands for breeding
Ambystoma jeffersonianum **(Jefferson salamander)**
Ambystoma laterale **(Blue-spotted salamander)**
Ambystoma opacum **(Marbled salamander)**
Ambystoma maculatum **(Spotted salamander)**

Amphibians using seasonal wetlands, (occasionally breeding /feeding in them)

Hyla versicolor (Gray treefrog)
Hyla c. crucifer (Spring peeper)
Bufo a. americanus (American toad)
Hemidactylium scutatum (Four-toed salamander)

The established presence of certain species of vertebrate predators, such as adult fish populations, can be used as "negative information" or indicators that certain pools are clearly not temporary.

Many amphibians use seasonal wetlands for breeding in contrast to permanent ponds because they and their offspring are less likely to become prey in these pools than they are in the shallows of a pond or lake where fish and other predators are present. The presence of a sustaining population of any species of fish at a site in questions would rule it out as a seasonal wetland.

A few species of reptiles are known to be occasional users of seasonal wetlands. These include the spotted turtle, snapping turtle, and painted turtle.

Malacologists have long recognized seasonal wetlands as habitat for members of the finger nail and pea clam family (spaeiidae) and other invertebrates Thus, the presence of mollusks, caddis fly cases, or other indicators of temporary pooling of water are indicative of the presence of a seasonal wetland.

Waterfowl are known to frequent many of these pools. **Wood ducks, mallards, black ducks, and great blue herons** will stop, especially at those seasonal with growths of vegetation such as **duckweed** or abundant populations of **mollusks**.

The typical plant communities associated with permanent wetlands cannot reliably be used for indicating seasonal wetlands. The presence of certain species of submergent or emergent vegetation generally indicates a wet condition that may go beyond the definition of a seasonal wetland.

Vegetation more usually associated with a wet meadow may indicate the pooling of water for a time insufficient for a seasonal wetland. These conditions may indicate the presence of an isolated wetland (cf. section 10.55 B) or an area that holds standing water for a major part of the year.

A. <u>Definition, Critical Characteristics and Boundary</u>:

<u>Definition:</u>
Seasonal wetlands are isolated depressions or closed basins which temporarily confine water during periods of high water table and high input from spring run-off or snow melt or heavy precipitation, and support populations of non-transient macro-organisms or serve as breeding habitat for select species of amphibians. In the absence of those habitat functions, the areas should be considered under section 10.55 B as isolated wetlands.

<u>Critical Characteristics</u>:

1. **Temporality** - Seasonal wetlands predictably fill up during the spring rains and snow melt, dry up during the summer, and may fill again during the fall rains. With few exceptions, a seasonal wetland is not considered temporary if the standing water does not disappear. The hydrologic cycle may occasionally miss a year.

2. **Shape** - Seasonal wetlands occupy shallow, cup-shaped depressions in areas that receive flooding from nearby waterways/water bodies or where rising ground water or side hill seeps may temporarily fill them.

3. **Size** - Seasonal wetlands are characteristically small; however, a given pool can vary in size from year to year depending on the amount of rainfall or snow melt. No minimum threshold size is indicated.

4. **Substratum** - Most seasonal wetlands are underlain with a relatively impermeable substratum or hardpan, frequently underlain pervious soils.

5. **Organic Accumulation** - The presence of a well-developed organic layer is a feature of seasonal wetlands. Generally these pools have persisted since the end of the glacial period and will probably continue in their semi-open condition for many more thousands of years unless artificially altered. These pools act as traps for organic matter, especially during the autumn when they trap quantities of airborne leaves. The presence of water-stained leaves in a depression which is otherwise dry is an indicator that the area temporarily serves to pool water.

6. **Topographical Orientation** - Seasonal wetlands occupy saddles or level ground and, with the exception of pools associated with flood plains and are often adjacent to steep slopes.

Boundary:
Because seasonal wetlands are dry much of the year, it may be necessary to determine their boundaries using indicators other than pooled water. Further, because the area inundated varies so widely from year to year, pooled water is not a good indicator of extent.

A seasonal wetland boundary shall be determined using a combination of pooled water (if present), water-stained leaves or other indicators of the temporary pooling of water, and the presence of macro-invertebrates such as caddis fly cases, fingernail and pea clams.

B. Presumption
Where a proposed activity involves the removing, filling, dredging or altering of a seasonal wetland, the Conservation Commission shall presume that such an area, as well as the area within 100 feet of the mean annual boundaries of said seasonal wetland, is significant to the protection of wildlife habitat, particularly amphibian breeding habitat. This presumption is rebuttable and may be overcome upon a clear showing that the seasonal wetland does not play a role in the protection of wildlife habitat .

In the event that the presumption is deemed to have been overcome, the Conservation Commission shall make a written determination to this effect, setting forth its grounds.

Such an area may be significant for the prevention of flooding and flood damage, protection of public and private water supplies, protection of ground water, and the prevention of pollution. When the presumption of wildlife habitat has been overcome, a determination for these other interests may be reviewed as set forth in Isolated Wetlands, section 10.55 (2).

C. General Performance Standards

A proposed project in a seasonal wetland shall not result in the following:

1. Any impairment of the capacity of the seasonal wetland, as well as the area within 100 feet of the mean annual boundary of said seasonal wetland to provide wildlife habitat.

2. Flood damage due to filling which causes lateral displacement of water that would otherwise be confined within said area.

3. An adverse effect on public and private water supply or ground water supply, where said area is underlain by pervious material.

4. An adverse effect on the capacity of said area to prevent pollution of the ground water, where the area is underlain by pervious material which is in turn covered by a mat of organic peat and muck.

5. Endangering state-listed species, which shall be protected under the procedures listed in 10.59.

10.81 - UPSTREAM DRAINAGE WITH THE POTENTIAL FOR ALTERING WETLANDS

Preamble

Upstream Drainage With the Potential for Altering Wetlands **(UDPAW)** are areas that are associated with intermittent or perennial freshwater or stormwater flows and/or have geologic features that exhibit severe or moderate limitations for building or site development, shallow or deep excavation, basement or slab construction, roads, cut banks, filling, removal of vegetation and other human or natural alteration.

In particular, soils classified as Terrace escarpments (Te) by the U.S. Department of Agriculture's Soil Conservation Service often exhibit these limitations and include the paradoxical features of being both excessively drained and seepy (containing intermittent or infrequent hillside or underground springs).

Other soils classified as Urban Land may also contain these characteristics. UDPAW may border on and/or may have an intermittent hydrologic relationship with creeks, rivers, streams, ponds and lakes, but do not necessarily (and often do not) exhibit the typical wetland characteristics of hydrophytic vegetation, hydric soils and/or hydrologic indicators. UDPAW are likely to be significant to public or private water supply, ground water supply, flood control, storm damage prevention, prevention of pollution, fisheries, wildlife habitat and historic values.

The surficial geology is often characterized by sediment deposits related to the vast glacial lake which once occupied the region. In the case of Terrace escarpments, streams (intermittent or perennial) drain high plateaus which drop rapidly. The essential flat parent material through or across which these streams cut consist of mainly fine to course sand, intermixed with silt and clay-rich materials. Despite their age and compaction, these materials are extremely susceptible to erosion caused by flowing water at the soil surface, as well as seepage through subsurface layers.

(see Goldsmith,W. and M. Larson. "Incised Channel Stabilization and Enhancement Integrating Geomorphology and Bioengineering". Proceedings of the conference on Management of Landscapes Disturbed by Channel Incision. 1997. (S.S.Y. Wang, E.J. Langendoen and F.D. Shields, Jr. (eds.) ISBN 0-937099-05-8.).

A. Definition and Critical Characteristics:

Definition

Upstream Drainage with the Potential of Altering Wetlands ***(UDPAW)*** is defined as over-land or surficial flow (runoff), which may originate from natural sources (springs, snow melt, precipitation, etc.) or human development (roads, driveways, slope changes, lawns, drainage swales, drainage outfalls or other human landscape alterations), which carries a sediment load or pollution that may alter a resource area. Such drainage may not necessarily flow in any discernible channel but may flow as sheet flow (over smooth surfaces), thread flow (through small stems and leaves) or riverlet flow (along small hills on the surface.) Naturally occurring UDPAW are often, but not exclusively, characterized by their classification as Terrace escarpments, as mapped within the United States Department of Agriculture's Soil Survey of Hampden County, Massachusetts Central Part:

"These miscellaneous areas are moderately steep to very steep. The escarpments occur at the margins of the various levels of stream or glacial outwash terraces or are geological gullies in soft, water-deposited strata. Slopes are concave and are 20 to 400 feet long. Areas range from 30 to 300 acres in size and are commonly long and narrow, and often have a dendritic (branching or tree-like) pattern. Most of these areas are vegetated, stabilized, and are not actively eroding.

Texture often varies considerably within a small area. The surface layer and subsoil range from silt loam to sand. They are 0 to 50 percent gravel. These miscellaneous areas are excessively to poorly drained.. Wet seepy spots often cause the steeply sloped soils to slump. Drainage is best near the upper margins of escarpments and grades to a wetter condition at lower levels" **(U.S. Department of Agriculture Soil Conservation Service's Soil Survey of Hampden County, Mass.- Central Part, Issued May 1978, page 51).**

An intact, stable soil column within Terrace escarpment soils is contingent upon a well-developed and maintained soil-surface or near soil-surface root system, and an associated organic layer which may contain varying degrees of decomposition. Removal of the root mat, grubbing, cutting or removing trees, shrubs and perennial vegetation, or otherwise altering the integrity of the soil column precipitates both erosion and the

transport of pollutants.

Given the proximity of Terrace escarpments to wetlands, and their upgradient position in relation to wetlands, intact soils of this type are critical to protecting down-gradient wetlands from the effects of erosion, sedimentation and pollution. Terrace escarpments and other similar soils that have been previously altered, but have restabilized either naturally or by human intervention, are also covered by this definition.

UDPAW may be characterized by the presence of discernible seeps or springs, but are more often characterized by dry conditions, due to strata which are excessively drained (especially within upgradient locations) and the "thread-flow, rivulet-flow" nature of surface drainage when it occurs within undisturbed sites. Therefor hydrophytic vegetation, hydric soils or other hydrological indicators may not be (and often are not) readily evident or present.

B. Presumption

Terrace escarpments (Te), as mapped by the U.S. Department of Agriculture's Soil Conservation Service, are protected by the ORDINANCE. Where a proposed activity involves the removal of vegetative cover, disturbance of the surface or sub-surface, grading, filling or otherwise alters the soil column of Terrace escarpments, similar soils, or any other areas defined in 10.81 B, the Conservation Commission shall presume that such an area, **as well as a 100 foot horizontal distance from the resource area boundary** (the Buffer Zone) is significant to the protection of the interests protected by the ORDINANCE.

This presumption is rebuttable and may be overcome by providing clear evidence to the Commission that the proposed **site plan** (conditions) will prevent sediment and pollutant loads from leaving the work area In the event that the presumption is deemed to have been overcome, the Commission shall make a written determination to this effect.

C. General Performance Standards:

Any alteration proposed for Upstream Drainage With the Potential for Altering Wetlands (UDPAW) shall have no adverse impacts to the interests protected under the ORDINANCE. Any applicant who proposes to alter UDPAW has the burden to demonstrate that no pollutant load, sediment load or other alteration shall enter into or occur within resource areas protected under the ORDINANCE.

Given the extreme difficulty in stabilizing altered UDPAW (especially Terrace escarpments), overland flow from point or non-point sources shall not discharge directly to Terrace Escarpment Soils.

Site alterations on Terrace Escarpment soils and the associated 100 foot Buffer Zone may be allowed, providing the following conditions are met:

1. Applicants requesting an alteration of Terrace Escarpments and/or the Buffer Zone shall submit a Notice of Intent to the Conservation Commission.

2. Alterations shall not be reviewed under a Request for Determination of Applicability.

3. The applicant shall submit plans signed and stamped by a professional engineer. These plans shall include the results of soil sampling, existing soil compaction, compactability of proposed fill, and any other information the Conservation Commission deems necessary.

4. The applicant shall avoid and minimize impacts to Terrace escarpment soils and Buffer Zone.

5. Alternative configurations of proposed work shall be presented and evaluated.

6. Alterations shall occur starting at the most up-gradient end of the soils delineated as Buffer Zone or Terrace escarpment, and shall proceed in a down-gradient direction.

10.82 - BUFFER ZONES

Preamble:
It has been the Conservation Commission's experience that any project undertaken in close proximity to a wetlands resource area has a high likelihood of resulting in some alteration of that area, either immediately, as a consequence of construction, or over a longer period of time.

Any person /agency proposing site alterations within 100 feet (200 feet in Riverfront Areas of a Resource Area must submit to the Conservation Commission either a Request for Determination of Applicability or a Notice of Intent.

If in response to a Request for Determination of Applicability, the Conservation Commission finds that work within the Buffer Zone will not alter the Resource Area, it may issue a Negative Determination of Applicability, with or without Special Conditions.

A. Definition, Critical Characteristics and Boundary

Definition:
The buffer zone is that area of land extending 100 feet horizontally outward from the boundary of any resource area specified in section 10.02 (1).

Critical Characteristics:
Where surface run-off or ground water from the buffer zone drains toward the resource area, vegetative cover and soils may filter run-off and provide uptake or renovation of pollutants from adjacent areas, thereby protecting water quality within the resource area. The vegetation and soils may slow surface run-off and permit infiltration of precipitation, maintaining the hydrologic regime to which the resource area is adapted.

Where surface water or ground water from the buffer zone do not drain toward the resource area, the topography and soils characteristics may help to control the surface and ground water regime in the resource area.

B. Presumption

Based on experience to date with projects in the buffer zone, the Conservation Commission shall presume that work in the categories below, within the tabulated distances from a resource area. The presumption is rebuttable and may be overcome upon a clear showing that the nature of the proposed work, special design measures, construction controls, or site conditions will prevent alteration of the resource area.

Depending on site conditions and project characteristics, the Conservation Commission may also find that work at greater distances from the resource area will alter the resource area. For the purposes of the table below "work" means filling, excavation, grading, operation of motorized construction equipment, and storage or stockpiling of earth or construction materials; and "building" means any structure requiring a building permit.

TYPE OF PROJECT	MINIMUM CLEARING	MINIMUM FOUNDATION
Residential Lot	30 feet	50 feet
Subdivision Lot	50 feet	75 feet
(with lot preparation done in conjunction with road construction)		
Commercial/Industrial	50 feet	75 feet
Utilities	10 feet (except for permitted crossings)	
Other Roads	25 feet (except for permitted crossings)	
Driveways and Parking Lots	25 feet	

The following activities within the buffer zone ***may be permitted*** if the applicant clearly demonstrates

that the activity will not alter a resource area. As with any work in the buffer zone, the activities listed below still require (as a minimum) filing a Request for Determination of Applicability in order for the Conservation Commission to determine if these presumptions apply:

1. Discharge of subsurface drainage from a single residential lot or residential building.

2. Discharge or roof and driveway run-off from a total impervious area of less than 4,000 square feet (per project) meeting the above separation distances.

3. Mowing or cutting vegetation within the buffer zone, provided that soil is not exposed to erosion, and that sod cover and natural litter layer is maintained.

4. Landscape plantings, provided that areas disturbed are mulched immediately and there is no change in grade.

5. Construction or installation of fences or structures not requiring a building permit.

6. Percolation tests or soils borings carried out to gather information for submittal with a Notice of Intent.

It is also presumed that increases in flows to any watercourse will have an adverse impact on the resource area. This includes increases in flows to already existing structures as well as to new point source discharges.

C. General Performance Standards

1. Any work within the buffer zone shall not result in alteration of any resource area, or

2. If work within the buffer zone which alters a resource area is permitted by the Conservation Commission, the alteration of the resource area shall comply with the applicable performance requirements for the altered resource area and any other conditions the Conservation Commission may require to enforce those performance requirements.

3. Point source discharge of surface run-off within or through the buffer zone shall be controlled to minimize increases in peak flow in the watercourse downstream of the discharge point for the runoff, as determined for the 2-year, 10-year, and 100-year storms, and to cause no increase in flood elevations outside the project site.

10.83 - STORM WATER MANAGEMENT

Preamble:
The goal of managing stormwater is to improve water quality. Urban runoff and discharges from stormwater outfalls are the single largest source responsible for water quality degradation. Stormwater management performance standards establish clear guidelines for stormwater management. Use of the performance standards will prevent or minimize adverse effects upon the interests protected under the Ordinance.

Further clarification of stormwater management structures and standards are described in the ***MA Department of Environmental Protection's Stormwater Management Handbook, Volumes 1 and 2 (March 1997).***

A. **Definition and Critical Characteristic**

Definition
Overland or surficial flow (runoff), which may originate from natural sources (springs, snow melt, precipitation, etc.) or human development (roads, driveways, slope changes, lawns, drainage swales, drainage outfalls or other human landscape alterations), which carries a sediment load or pollution that may alter any Area Subject to Protection under the Ordinance, shall be considered stormwater which is subject to the stormwater management standards.
Where a new point source discharge is proposed,or where increased flows to those already existing are proposed to be discharged to an Area Subject to protection, a comprehensive Stormwater Management System shall be designed.

The Stormwater Management System shall be designed to avoid the degradation of wetland functions and values including those of any receiving or downstream water course. The Stormwater Management System shall be characterized by its ability to meet the State's ***Stormwater Management Policy's Standards.***

B. **Presumption**
Where a proposed activity discharges stormwater, either through a closed system or an open drainage channel as defined in 10.82 B,, the Conservation Commission shall presume that the MA Stormwater Management Standards adequately protect Areas Subject to Protection under Chapter 272. This presumption is rebuttable and may be overcome upon clear showing to the contrary.

C. **General Performance Standards**

(1) No new stormwater conveyances or additional flows to existing stormwater conveyances may discharge untreated stormwater directly to or cause erosion or sedimentation in wetlands or waterways.

(2) Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.

(3) Loss of annual recharge to groundwater shall be minimized through the use of infiltration measures to the maximum extent practicable. The annual recharge from the post-development site should approximate the annual recharge from the pre-development or existing site conditions based on soil types.

(4) For new development, stormwater management systems must be designed to remove 80 percent of the average annual load (post-development conditions) of Total Suspended Solids (TSS). It is presumed that this standard is met when:

a. Suitable non-structural practices for source control and pollution prevention are implemented

b. Stormwater management Best Management Practices (BMPs) are sized to capture the prescribed runoff volume

c. Stormwater management BMPs are maintained as designed.

(5) Stormwater discharges with higher potential pollution loads require the use of specific stormwater BMPs. The use of infiltration practices without pretreatment is prohibited.

(6) Stormwater discharges to critical areas must utilize certain stormwater management BMPs approved for critical areas. Critical areas are Outstanding Resource Waters (ORWs), shellfish beds, swimming beaches, cold-water fisheries and recharge areas for public water supplies.

(7) Redevelopment of previously developed sites must meet the Stormwater Management Standards to the maximum extent practicable. However, if it is not practicable to meet the Standards, new (retrofitted or expanded) stormwater management systems must be designed to improve existing conditions.

(8) Erosion and sediment controls must be implemented to prevent impacts during construction or land disturbance activities.

(9) All stormwater management systems must have an operation and maintenance plan to ensure that systems function as designed.

(10) Existing wetlands shall not be used for the storage or treatment of storm water.

(11) All storm water management systems shall be designed to contain, on site, a minimum of 10 year storm.

(12) Detention or retention basins and other structures shall be designed to meet the following standards:

a. The applicant shall be responsible for securing by way of a covenant, easement, deed restriction or other legal instrument, a perpetual mechanism and/or fund for the maintenance and repair of the basin or structure by the heirs and assigns of the property on which the basin is located. This may include ownership by the City of Chicopee.

b. Basin outlet works, to the fullest extent possible, shall be maintenance free and self-cleaning. They shall also be designed to minimize acts of vandalism.

c. Basin inlet and outlet works shall be designed to avoid scour and erosion of the basin bottom and any discharge channels.

10.84 - EROSION AND SEDIMENT CONTROL

Preamble:
Erosion and sedimentation that results from land development has long been acknowledged as the largest identifiable source of pollution and degradation of wetlands. The intent of this section is to describe appropriate standards and measures applicable to all projects involving land disturbance in or within 100 feet of a wetland.

A. Definition and Critical Characteristics

Erosion and sediment control shall mean the avoidance or minimization of the diminishment or destruction by degrees of soils, sands, clays, ledge rock or any other land form, both naturally occurring or man-made; also the avoidance of the dispersing or depositing of soils, sands, clays, rock or any other naturally or unnaturally occurring material.

B. Presumption

Where a proposed activity involves the removal of vegetative cover, or significant disturbance of the surface, erosion is presumed to occur. This presumption may be overcome by providing evidence to the Commission that site conditions (e.g. soil and slope) will prevent sediment from leaving the disturbed area. In the event that the presumption is deemed to have been overcome, the Commission shall make a written determination to this effect.

C. General Performance Standards

(1.) Erosion and sediment control measures shall eliminate or reduce impacts to wetland resource areas and their 100-foot buffer zones. Erosion and sediment control shall serve to protect the interests identified in the Ordinance.

(2.) All plans shall show appropriate erosion control measures. A narrative erosion control plan and construction schedules shall be provided for all areas to be disturbed within a resource area and its 100 foot buffer zone. Specifications shall be provided for both temporary and permanent ground cover. The plan shall describe all methods that will be used to control erosion and sedimentation, in both a temporary and permanent manner.

(3.) Proposed location of any fill material that will be stockpiled on site must be shown. Perimeter sediment control shall be installed around temporary stockpiles. Temporary erosion control Shall generally consist of double-staked trenched hay bales, trenched silt fences and erosion control blankets.

(4.) Erosion and silt from the permitted activities shall not cause an adverse impact on any wetland resource area cited in these regulations, in either a temporary or permanent manner.

(5.) Vegetative and soil stabilization methods shall be employed. All areas subject to erosion shall be stabilized with loam, seed, hay, mulch and erosion control blankets immediately following construction activities.

10.85 - WETLAND REPLACEMENT AND RESTORATION DESIGN AND PLANS

Preamble:
Permitted removal, filling, dredging or altering of wetlands shall be mitigated or compensated for by the creation of a substitute wetland as deemed appropriate by the conservation commission. Wetland replacement means the renewing, rebuilding or reconfiguring of a wetland that has been altered.

Wetland alterations to access upland parcels will not be permitted in situations where the landowner "landlocked" the parcel by subdividing off upland access.

General Requirements:

A. Wetland replacements/restorations shall be designed and constructed in a manner that is similar to the altered or displaced wetland in the following ways:
   (1.) surface area
   (2.) groundwater elevation
   (3.) surface water elevation
   (4.) configuration
   (5.) volume
   (6.) hydraulic connection
   (7.) flood storage capacity
   (8.) vegetation diversity and coverage
   (9.) habitat value.

   A complete wetland replacement/restoration plan shall be submitted to the Conservation Commission for review/ and approval prior to the close of the Public Hearing. The plan shall be prepared by an individual with demonstrated experience in **wetland science.**

B. The plan shall address the following:
   (1.) A statement of the preparer's qualifications

   (2.) Wetlands replacement/restorations must be contiguous and at least 1.5 times the square footage of the altered wetland.

   (3.) To the fullest extent possible, replacement or restoration areas must be constructed prior to all other construction-related activity.

   (4.) Suitable wetland soils from the altered wetland shall be excavated and stored for use in the

replacement wetland. These soils shall be removed in such a way as to preserve the soil profile and seed bank.

(5.) At least 75% of the surface area of the replacement or restoration must be established with native wetland plant species within two growing seasons. Invasive weed species will be disregarded in determining coverage.

(6.) If 75% qualifying coverage is not met within two growing seasons, he applicant must present a corrective plan to the Conservation Commission within one month of receiving a request to do so by the Commission. The corrective plan may include regrading, replanting, seeding or other steps as necessary.

(7.) No wetland replacement or restoration shall be certified as in compliance, until and unless it has survived for at least two calendar years.

(8.) A combination of natural reseeding, transplanting and new plantings shall be used to re-establish the original vegetational community.

(9.) Replaced or restored wetlands shall be monitored for a 3 year period after completion and written reports shall be submitted to the Conservation Commission every six months for the first two years.

(10) A final report shall be submitted at the end of the third year and shall include an "as built" plan of the restoration/replacement area